

Ship. DEC. 9

Work Order ID 153311

153311

Page 1

Tuesday, November 15, 2016 2:38:00 PM

Item ID: 647.1405

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Upper Cutter Assembly

Start Date: 11/15/2016 Start Qty: 3.00

3

Cust Item ID:

Required Date: 11/15/2016 Req'd Qty: 3.00

3

Customer:

Reference:

Approvals:

Process Plan:

Date: 16-11-15

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

647.1400

C

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

3

DAS
6
9-89

DEC 12 2016

120

120

Small Fab

Memo

0.03

Small Fab

Assemble as per dwg and apply loctite 598 on all faying surfaces per note 2.

A/R RTV LOCTITE 598: 11/15/18 5385
exp. date: 04/18DAS
30
9-893 DAS
36
9-89

DEC 16 2016

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.01

Quality Control

③ 11/21/19

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

Work Order ID 153311

Tuesday, November 15, 2016 2:38:00 PM

153311

Page 2

Item ID: 647.1405 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Upper Cutter Assembly
Start Date: 11/15/2016 Start Qty: 3.00 ***3*** Cust Item ID:
Required Date: 11/15/2016 Req'd Qty: 3.00 ***3*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location	0.00							
140									
Packaging	Memo	0.01							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND REV***								
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.05							
Quality Control									

DAS
21
9-89

DEC 19 2016

DAS
21
9-89

DEC 19 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Picklist Print

Tuesday, November 15, 2016 2:38:06 PM

Page 1

Work Order ID: 153311

153311

Parent Item: 647.1405

647 1405

Parent Item Name: Upper Cutter Assembly

Start Date: 11/15/2016

Required Date: 11/15/2016

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP REV:A NEW ISSUE 16-11-15 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

NAS1149FN832P Purchased No

NAS1149FN832P

Washer

Location

Loc Qty

Loc Code

GA

1285

M135058

1285

ST263

178

M135603

178

MS27039-08-19 Purchased No

MS27039-08-19

Screw

Location

Loc Qty

Loc Code

GA

182

m135948

182

ST277

109

m135865

9

m136042

100

MS21042L08 Purchased No

MS21042L08

Nut

Location

Loc Qty

Loc Code

GA

50

m135274

50

ST303

960

m135672

1

m135766

159

~~m135948~~

300

m135978

500

DEC 12 2016

DEC 12 2016

DEC 12 2016

AS
6
9-89

AS
6
9-89

AS
6
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

Picklist Print

Tuesday, November 15, 2016 2:38:06 PM

Page 2

Work Order ID: 153311

153311

Parent Item: 647.1405

647 1405

Parent Item Name: Upper Cutter Assembly

Start Date: 11/15/2016

Required Date: 11/15/2016

Start Qty: 3.00

Required Qty: 3.00

646.9703

Manufactured No

Each

1.0000

DAS
30
9-89
**

3

646 9703

Cutter Sub Assembly

3153242 DEC 19 2016

Location

Loc Qty

Loc Code

CCK013

1

148517

1

647.1514

Manufactured No

Each

0.0000

3

647 1514

Upper Deflector

**

2X 153318 DEC 12 2016 DAS
IX 153323 16-12-16 9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

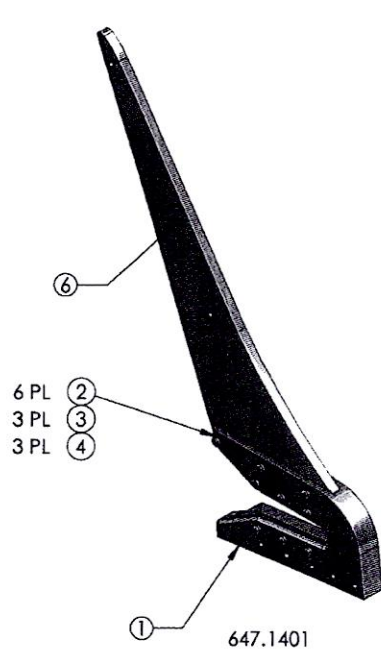
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: 08	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

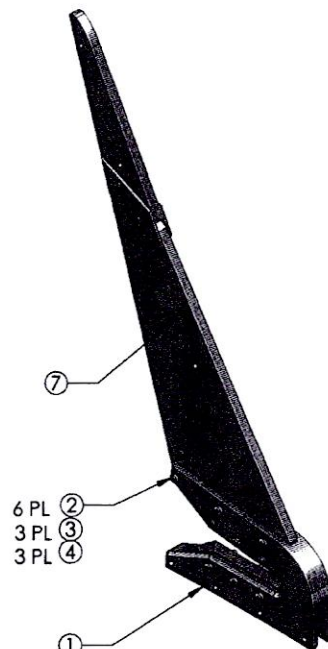
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NOTES:

1. IDENTIFY IAW MPP-120
2. APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 1, 6, & 7 UPON ASSEMBLY



647.1401



647.1402

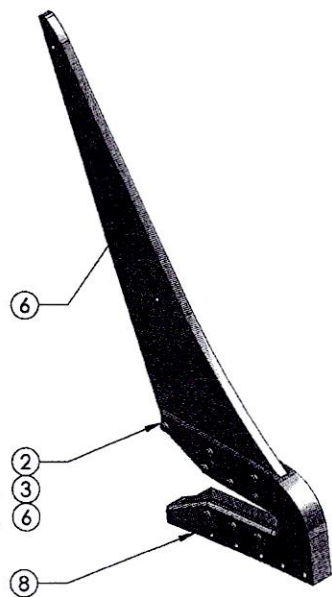
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 153311
MP16-11-15

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION: PR1		N/C
N/C	INITIAL RELEASE	06/15/09	P. BRAVO
A	INCORPORATED ECN'S 02962 & 03911	06/07/13	P. BRAVO
B	INCORPORATED ECN 05330	02/28/16	P. BRAVO
C	INCORPORATED ECN 05549	11/01/16	P. BRAVO

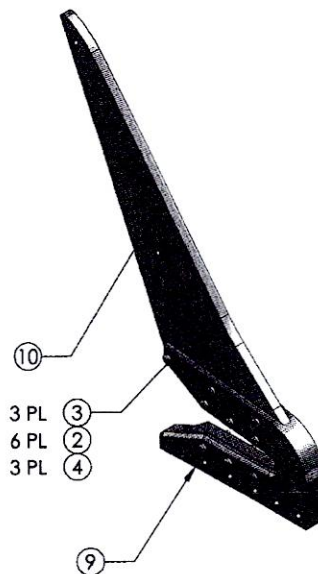
1	-	-	-	-	11	647.1514	UPPER DEFLECTOR		
-	1	-	-	-	10	647.1513	UPPER DEFLECTOR		
1	1	-	-	1	9	646.9703	CUTTER SUB ASSY		
-	-	1	-	-	8	646.9702	CUTTER SUB ASSY		
-	-	-	1	-	7	647.1501			
-	-	1	-	1	6	647.1510	UPPER DEFLECTOR		
A/R	A/R	A/R	A/R	A/R	5	601.2045	RTV, LOCITE 598		
3	3	3	3	3	4	601.1541	LOCKNUT	MS21042L08	
3	3	3	3	3	3	601.2765	SCREW	MS27039-0819	
6	6	6	6	6	2	601.2764	WASHER	NAS1149FN832P	
-	-	-	1	-	1	646.9701	CUTTER SUB ASSY		
X						647.1405	CUTTER ASSY (UPPER)		
	X					647.1404	CUTTER ASSY (UPPER)		
		X				647.1403	CUTTER ASSY (UPPER)		
			X			647.1402	CUTTER ASSY (LOWER)		
				X		647.1401	CUTTER ASSY (UPPER)		
.1405	.1404	.1403	.1402	.1401	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.

QTY		PARTS LIST	
NEXT ASSY (S)		ORIGINAL DATE 10-01-10	06-15-09
647.1300		DRAWN BY J. GARDNER	CHECKED P. BRAVO
		DRAWING APPROVAL P. BRAVO	
		DATE 06-15-09	
		CONTRACT NO.	
		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ± .5°	
		SCALE NONE	
		DART AEROSPACE 3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760) 724-5300	
		CUTTER ASSY	
SIZE B	CODE 07M26	DWG. NO. 647.1400	REV. C
		SHEET	1 OF 2

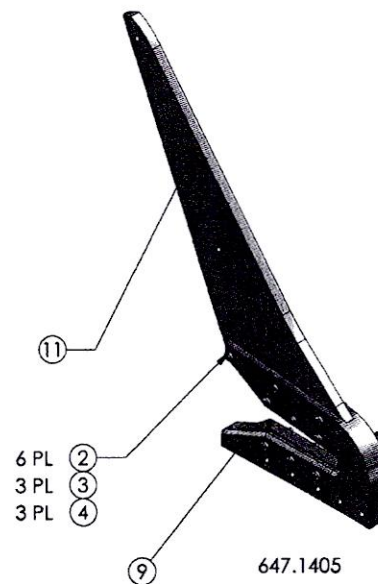
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647.1403



647.1404



647.1405

ORIGINAL DATE 06-15-09		DART AEROSPACE 3030 ENTERPRISE CT., SUITE A VISTA, CA, 92081 (760)-724-5300	
DRAWN BY J. GARDNER		CHECKED P. BRAVO	
DRAWING APPROVAL P. BRAVO		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
CONTRACT NO.		CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.3°		SIC: 07N26	REV. C
SCALE: NONE		SHEET 2 OF 2	